

REMARKS

The Office Action dated June 23, 2005 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto. Claims 8-14 were previously pending in the application.

Claims 8, 11, and 14 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claims 12 and 13 have been cancelled without prejudice. No new matter has been added. Claims 8-11 and 14 are currently pending in the application and are respectfully submitted for consideration.

Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gilbert (U.S. Patent No. 6,763,274) in view of Montgomery (IEEE). The Office Action took the position that Gilbert discloses all of the limitations of the claims, with the exception of the endpoints being adapted to measure a response time of the system at a given time instant, the response being defined as the time elapsed between the capture of a given frame of speech at one endpoint and its play out at the other endpoint plus the same quantity in the other direction and to use the response time as a parameter in the adaptation algorithms. The Office Action then relies upon Montgomery as allegedly curing this deficiency in Gilbert. Applicants respectfully submit that Gilbert and Montgomery fail to disclose or suggest the unique and non-obvious elements of claim 8.

Claim 8, upon which claims 9 and 10 are dependent, recites a system including two endpoints (1, 2) communicating with each other by means of a packet-switched network. The endpoints (1, 2) are configured to estimate jitter from packet arrival times

and to modify silence period lengths according to the latest estimate by using adaptation algorithms, wherein a response time (ρ) of the system is measured at a given time instant, the response time being defined as the time elapsed between the capture of a given frame of speech at one endpoint and its playout at the other endpoint plus the same quantity in the other direction. The first endpoint (1) is configured to send a response time request packet to a second endpoint (2) at a time s_n , and the second endpoint (2) is configured to receive the response time request packet at a time r_n . The second endpoint (2) is configured to send a response time indication packet to said first endpoint (1) at a time s_i , the first endpoint (1) is configured to receive the response time indication packet at a time r_i , and the first endpoint (1) is configured to compute the response time (ρ) on the basis of the sending and receiving times. The response time is used as a parameter in the adaptation algorithms, and the response time request packet sent from the first endpoint (1) includes information identifying one of the packets which has been sent at a time s' by the second endpoint (2) and received at a time r' by the first endpoint (1) since its latest adaptation. The response time indication packet sent by the second endpoint (2) includes information identifying one of the packets which has been sent at a time s by the first endpoint (1) and received at a time r by the second endpoint (2) since its latest adaptation, and the second endpoint (2) is configured to compute $s' - s_i$ and indicate the result in the response time indication packet.

As will be discussed below, the cited prior art fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Gilbert discloses a method for digital audio compensation. The method includes determining a timing relationship between an audio input and an audio output based on a difference between time stamps for a first data packet and a second data packet, and a period of time required to play the first data packet. The method further includes identifying a period of silence within an audio segment, and adjusting the length of the period of silence based on the timing relationship between the audio input and output.

Montgomery discloses techniques for packet voice synchronization. More specifically, Montgomery discusses methods for the reconstruction of a continuous stream of speech from the set of packets that arrive at a destination terminal, each of which may encounter a different amount of buffering delay in the packet network. The techniques described include blind delay, roundtrip estimation, absolute timing, and accumulated variable delay. These techniques estimate the delay encountered by each packet and use the delay estimate to determine how speech is reconstructed.

Applicants respectfully submit that Gilbert and Montgomery, whether viewed singly or combined fail to disclose or suggest critical and non-obvious elements of claim 8. For example, Gilbert and Montgomery fail to disclose or suggest that the “second endpoint (2) is configured to compute $s'-s_i$ and indicate the result in the response time indication packet,” as recited in claim 8. Applicants respectfully submit that the Office Action acknowledged that claim 13 contains allowable subject matter, and the above limitation of claim 8 corresponds to the subject matter of claim 13. Therefore, Applicants respectfully request that the rejection of claim 8 be withdrawn.

Claims 9-10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gilbert in view of Montgomery and further in view of Ramjee (IEEE). The Office Action took the position that Gilbert and Montgomery disclose all of the elements of the claims, with the exception of the endpoints being adapted to verify that for certain adaptation points the playout (p) of a packet can be expressed as $p=r+B$, where r is a packet reception time and B is a buffer delay chosen by using the algorithms, and to synchronize the playout for other packets with the previous packet playout. The Office Action then relies upon Ramjee as allegedly curing the deficiencies in Gilbert and Montgomery. Applicants respectfully submit that claims 9 and 10 recite subject matter which is neither disclosed nor suggested by Gilbert, Montgomery, and Ramjee.

Gilbert and Montgomery are discussed above. Ramjee discloses adaptive playout mechanisms for packetized audio applications in wide area networks. Specifically, Ramjee discusses four algorithms for adaptively adjusting the playout delay of audio packets in an interactive packet-audio terminal application. Ramjee concludes that an adaptive algorithm which explicitly adjusts to the sharp increases in packet delay can achieve a lower rate of lost packets for both a given average playout delay and a given maximum buffer size.

Applicants note that claims 9 and 10 are dependent upon claim 8, and therefore inherent all of the elements thereof. As discussed above, Gilbert and Montgomery do not disclose or suggest all of the elements of claim 8. Furthermore, Ramjee fails to cure the deficiencies in Gilbert and Montgomery with respect to claim 8. Thus, the combination

of Gilbert, Montgomery and Ramjee fails to render claims 9 and 10 obvious. In addition, claims 9 and 10 should be allowed for at least their dependence upon claim 8, and for the specific limitations recited therein.

Claims 11 and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gilbert in view of Larson (U.S. Patent No. 4,569,042). While claims 13 and 14 were indicated as being objected to for being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 11 has been amended to include the limitations of claims 12 and 13. Claims 12 and 13 have been cancelled, and claim 14 has been amended to depend upon claim 11. Therefore, Applicants respectfully submit that claims 11 and 14 are now in condition for allowance.

Applicants respectfully submit that the cited prior art fails to disclose or suggest critical and important elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 8-11 and 14 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time